

## CITIZEN ADVISORY COMMITTEE RETREAT

### **ISSUE A - BASELINE DETERMINATION: How should a mercury emission baseline be established for utility units or other mercury emitting sources that may be affected by requirements to cap and reduce mercury emissions?**

#### **SUMMARY OF PUBLIC COMMENT:**

*Wisconsin Public Service Corporation* – Baseline provisions pose problems for one of their units which has recently undergone a significant change in pollution control equipment.

*Sierra Club* – When setting the baseline consider the amount of mercury emitted before control as the baseline. Establish a panel including public interest for approving any alternative baseline.

*Wisconsin Paper Council* – It is not clear why DNR picked 1998-2000 as the baseline period. Significant mercury reductions have occurred since 1990 and other states have used 1990 as a baseline. DNR should work with the Technical Advisory Group to evaluate alternative baseline periods.

*Alliant Energy* – Expressed concern that more time is needed to implement an emission cap then is provided in the proposed rules, that the provision for setting an alternative baseline is vague, that establishing a historical baseline using the procedures in the proposed rules is difficult and that the procedure for non-utility sources is preferred over the utility baseline procedure.

*Wisconsin Electric* – Opposed to the procedure in the proposed rules. Recommends a current year baseline set on mercury fuel content, coal consumption and stack test results.

The proposed methodology for determining a historic emission baseline is problematic. It does not account for any coal or pollution control changes since 1998, as well as a number of other inaccuracies. The proposed methodology relies on applying the results of a future mercury removal efficiency performance test retroactively to the fuel burned in 1998, 1999 and 2000. This will produce inaccurate results. USEPA's Information Collection Request (ICR) data confirms that coal type, pollution control equipment, and other parameters have a significant impact on the magnitude of mercury removal. Therefore, applying the results of a year 2004 stack test to fuel burned and operational parameters from several years earlier does not make sense nor provide accurate results.

Alternatively, a baseline that is determined using total annual mercury in fuel into the boiler would avoid the retroactive application of emission factors and provide accurate data on a going-forward basis. The mercury content in the coal, coal usage, and the removal efficiency of the pollution control equipment would be based on the latest coal data and stack test results to establish the current year baseline. Requirements for sampling methods, analytical techniques and procedures, and stack reference test methods would be defined, up front, in rule-making. If this approach is adopted, provisions will need to be developed to allow for mercury reduction credits for units that are retired or switch to a fuel that contains less mercury.

The following comments are provided on the proposed baseline emission methodology, though we oppose this approach. The solid fuel analysis procedures and methods do not take into account new analytical techniques and methods. The proposed mass balance approach for determining mercury removal efficiency of pollution control equipment relies on fly ash sampling

from the electrostatic precipitator (ESP) hoppers, which poses a safety hazard to our operating personnel and is very cost ineffective. Finally, the proposed rule requires stack testing to determine the total mercury emission concentration in the flue gas. The reference test method for determining mercury concentration is not specified in the NR446 rules or in NR439. Each of these issues, and recommended alternatives are covered in more detail in the next section.

*Stora Enso* – Concerned about the quality of historical emission data to set a baseline.

## **PROVISIONS IN THE PROPOSED RULE:**

**NR 446.03 Baseline mercury emissions.** This section outlines the requirements for establishing baseline mercury emissions for major electric utilities and major industrial sources. This section also includes the procedures for newly affected sources to establish their baseline mercury emissions. These are sources that become major after the promulgation date of the rules. For major utilities baseline mercury emissions set the level from which reductions are required. The presumptive baseline is the average of annual mercury emissions for 1998, 1999 and 2000. There is an opportunity to request an alternative baseline if the presumptive baseline is felt to be not representative of normal operations. Baseline mercury emissions would become effective 4 years after promulgation of rules.

For the purpose of this rule, a major utility has annual mercury emissions of 100 pounds or more and a major stationary source has annual mercury emissions of 10 pounds or more.

**NR 446.04 Procedures for determining baseline mercury emissions.** This section outlines the procedures for determining baseline mercury emissions from utility and industrial combustion units and process units. For utility and industrial combustion units mercury emission determinations require knowledge of mercury in the fuel used, the quantity of fuel fired and performance test results to determine the mercury removal efficiency of air pollution control equipment. For process units a mass balance approach is required.

## **COMMITTEE MEMBER INTERESTS:**

*Marc Looze - WED*

We are open to looking at the best method for baseline determination.

*Wayne Stroessner - Random Lake*

It would seem unfair to those plants that have already cleaned up their emissions to set their baseline at the present levels. Scientifically, it would appear that laboratory research would be used to determine the amount of mercury emitted from a measured random mix of coal types. (i.e. determine how much mercury is emitted from one ton of selected coal.) This amount would be used as the baseline for all coal-burning plants. This same method could be used for baseline determination for gas plants, oil plants, incineration plants, etc.

*Mark Yeager - ECCOLA*

Averaging annual Hg emissions for 1998-2000 is a fair way to set this baseline (medically a “baseline” is established at the point of optimum conditions prior to contamination). The goal is to actually reduce emissions rather than obtain credit for reductions since 1990. Emission “spikes” in a current year (or years) before compliance (but after promulgation) could result in a misleading baseline and less reductions than intended.

**ADDITIONAL BACKGROUND:**

The Natural Resources Board in their resolution authorizing development of administrative rules directed that a methodology for determining baseline emission levels be included in the proposed rules.

The Technical Advisory Group has drafted a brief on this issue. Their draft brief identifies concerns with the procedure included in the proposed rules and identifies alternatives. The TAG intends to finish their brief on this issue in April. Remaining work involves a comparison of the proposed rules and alternatives.

The TAG suggests the following alternatives:

1. Select current year fuel mercury content and emission rate data and apply to historic coal throughput during the identified baseline years.
2. Use mercury emissions data from a recent year(s) or year(s) after the proposed rules are promulgated.
3. Set a baseline using historic or current fuel and consumption information.

**ALTERNATIVES:****COMMITTEE RECOMMENDATIONS:**